and [The array of claim 1,] wherein the array is prepared by a method which comprises steps of:

providing a support having reactive functionalities;

subjecting said support to a first set of reagents or [reactions] reaction conditions, wherein each of said first reagents or reaction conditions cycles with a first specific spatial period along the support, and wherein each individual first reagent or reaction condition in the set is identified as a function of a unique distance or time[;], so that a first set of compounds is produced simultaneously on the array, each compound within first set being related to all other compounds in the first set as a product of the first set of reagents or reaction conditions, and being separated from other first set compounds by the first specific spatial period; and

subjecting said support to one or more additional set of reagents or reaction conditions, wherein each of said additional reagents or reaction conditions cycles with a second specific spatial period along the support, and wherein each individual reagent or reaction [condition] conditions in said one or more additional sets is identified as a second function of unique distance or time, so that at least one additional set of compounds is produced simultaneously on the array, each compound within the additional set being related to all other compounds in the additional set as a product of the additional set of reagents or reaction conditions, and being separated from other additional set compounds by the second specific spatial period, until a desired array of compounds is obtained.

3. (Amended) An array of at least two different chemical compounds attached to a support, wherein the array has linear organization;

wherein the array is [The array of claim 1,] prepared by a method which comprises the steps of:

a) providing a support having reactive functional groups,

b) winding the support around a geometric template,

c) dividing the surface of the template lengthwise into regions,

d) subjecting each region to one or more reagents or reaction conditions so as to attach reactive moieties or to modify the functional groups, and thereby to simultaneously create a set of compounds on the support in which each compound in a set is related to all other compounds